

Supporting Material**1.1 Dynamic Light Scattering**

Figure.1 (a)-(c) shows the dynamic light scattering (DLS) histogram of ZnTe/dendrimer nanocomposites. It was found that each sample was dominantly composed of single small particles, clusters as well as supercluster. The presence of different types of force like dipole-dipole interactions, hydrogen bonds, and hydrophobic interactions between methylene units in the dendrimer arms in solution causes aggregation, which results in formation of the superclusters. However, each sample contained predominantly single particle with diameter ranging from 7.1 to 11 nm.

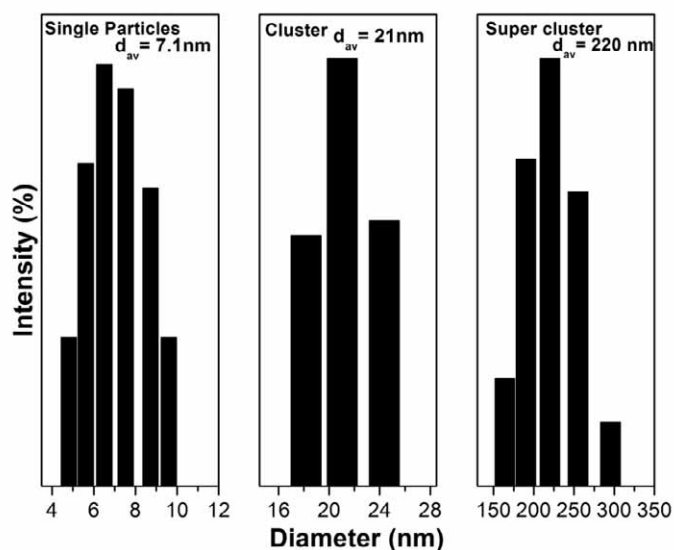


Fig. 1a Size distribution histogram of ZnTe/dendrimer nanocomposites by DLS (using NH₂ terminated dendrimer).

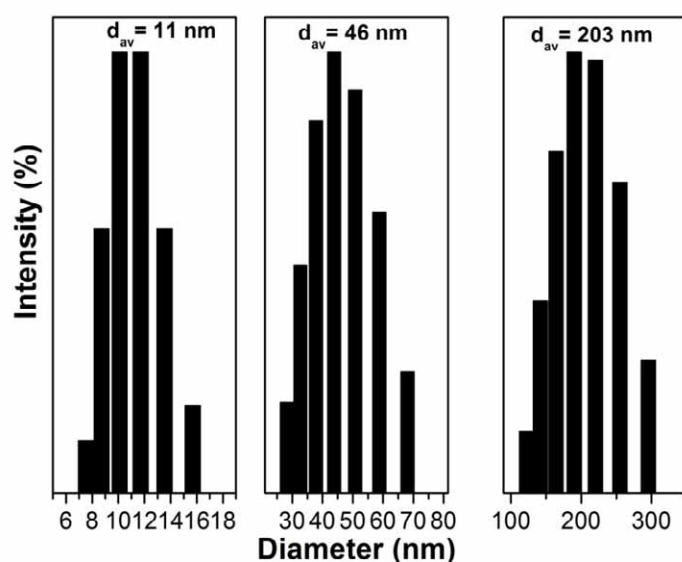


Fig. 1b Size distribution histogram of ZnTe/dendrimer nanocomposites by DLS (using COOH terminated dendrimer).

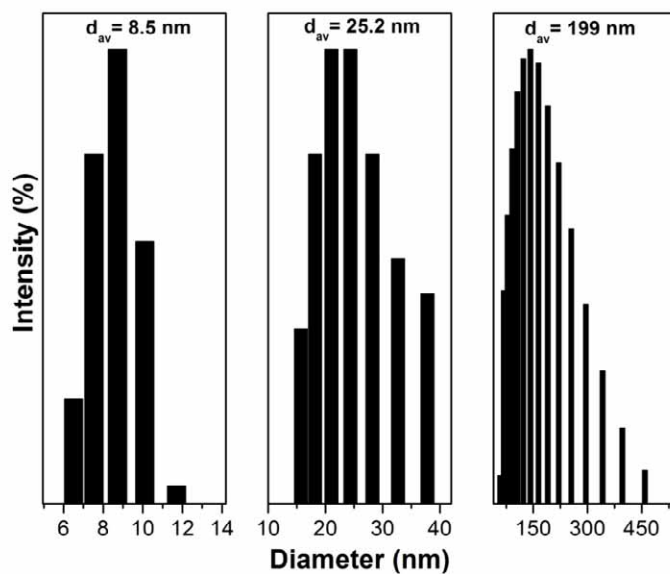


Fig.1c Size distribution histogram of ZnTe/dendrimer nanocomposites by DLS (using OH terminated dendrimer).

1.2 Atomic Force Microscopy

AFM image of ZnTe/dendrimer nanocomposites suggests that smaller particle size with narrow size distribution obtained for G4. NH_2 functionalized ZnTe nanocomposites whereas larger aggregation with broad size distribution for OH terminated dendrimer.

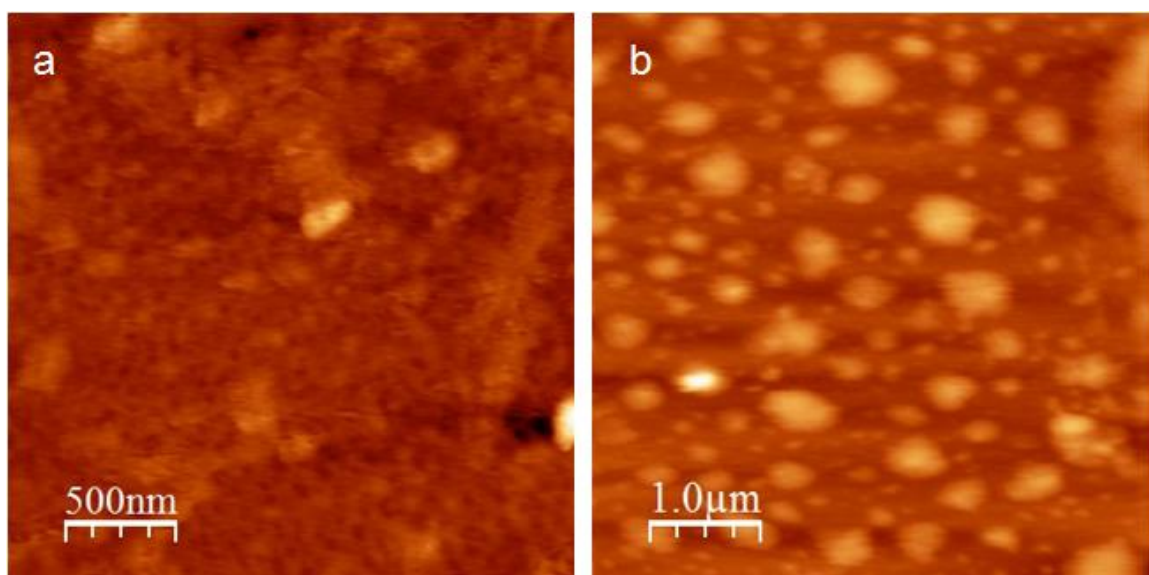


Fig.2 AFM image of ZnTe/dendrimer nanocomposites using (a) NH_2 terminated and (b) OH terminated dendrimer

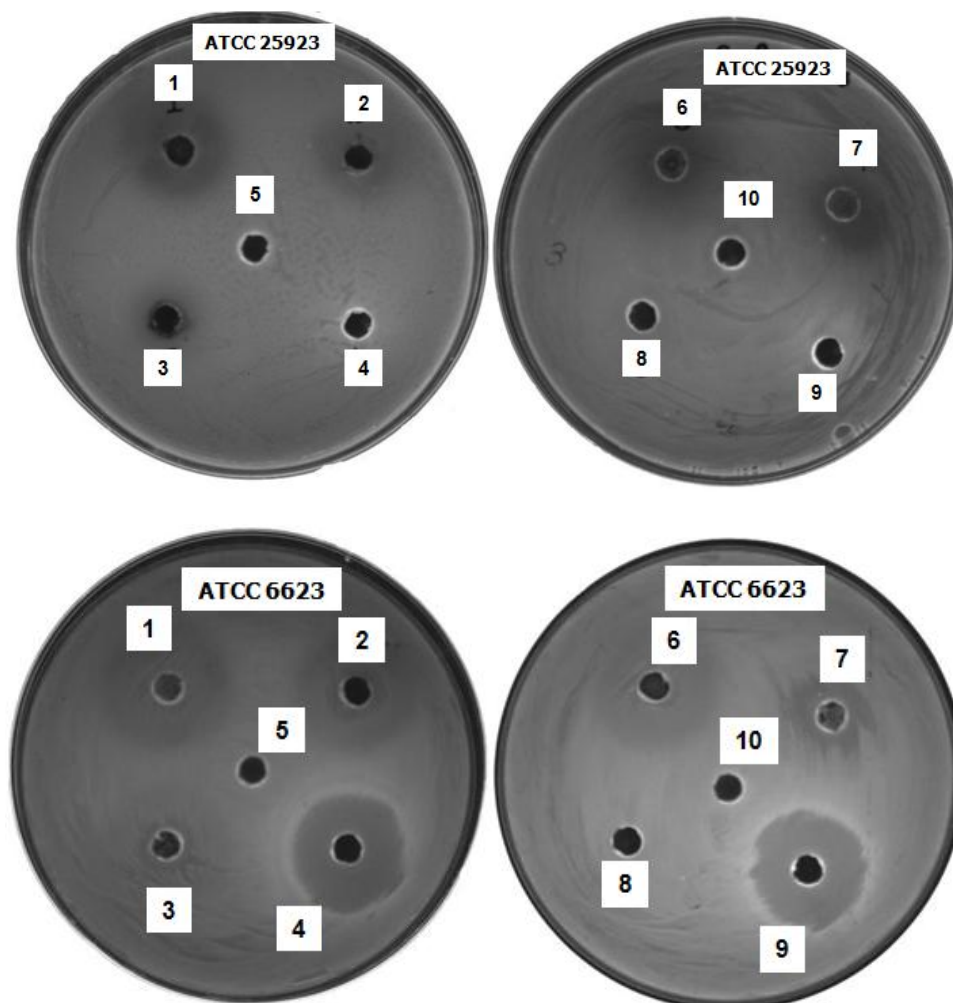


Fig.3 Determination of effect of nanocomposites on *S. aureus* and *B. subtilis* by agar-diffusion assay method. *S. aureus* strain ATCC 25923 and *B. subtilis* strains ATCC 6623 were spread on MHA. In each case, 50 μ l of 2 mg/ml of nanocomposites (in water) [wells 2, ZnTe_G4.NH₂; 3, ZnTe_G3.5COOH; 4, ZnTe_G3.5SAH; 6, Bulk ZnTe; 7, CdTe_G4.NH₂; and 8, Zn-Dendrimer complex], 50 μ l of 0.2 mg/ml of tetracycline (wells 1, and 9), and 50 μ l of water (wells 5 and 10) were added to the wells

Table 1 Hemolytic activity of nanocomposites

Material	OD₅₄₁			
Cell + PBS	0			
Cell + Triton X	2.2			
Cell + DNC	1 MBC	2 MBC	4 MBC	8 MBC
Cell + ZnTe DNC	0.022	0.023	0.085	0.124
	0.018	0.019	0.112	0.116
	0.012	0.029	0.076	0.104
Cell + CdTe DNC	0.055	0.068	0.069	0.099
	0.041	0.086	0.073	0.055
	0.040	0.066	0.084	0.066